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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GEOFFREY S. STRONGIN, BRIAN C. BARNES,
and RODNEY SCHMIDT

Appeal 2008-004016
Application 09/825,905
Technology Center 2100

Decided:¹ June 11, 2009

Before ALLEN R. MACDONALD, LANCE LEONARD BARRY, and
JAY P. LUCAS, *Administrative Patent Judges*.

MACDONALD, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Data (electronic delivery).

Appellants appeal under 35 U.S.C. § 134 from the Examiner's rejection of claims 1-24. We have jurisdiction under 35 U.S.C. § 6(b).

We reverse.

STATEMENT OF THE CASE

According to Appellants, the invention relates to securing portions of a memory within data processing systems.²

Exemplary Claim

1. A method for providing security in a computer system, comprising:
 - controlling access to selected information using attributes defined in a first table;
 - controlling access to the selected information using a second table that associates at least one of a read and write privilege with one or more physical addresses of a memory that houses the selected information;
 - receiving a request from a program to access the information;
 - and
 - allowing access to the information in response to determining that the program has the authority to access the information based on at least one of the read and write privilege.

² Spec. 2:6-7

Prior Art

The Examiner relies on the following prior art references to show unpatentability:

Childs	4,442,484	Apr. 10, 1984
Nozue	5,890,189	Mar. 30, 1999

Examiner's Rejection

1. The Examiner rejected claims 1-4, 7-9, 11-13, 15-17, 19-21, and 24 under 35 U.S.C. § 102 (b) as being anticipated by Nozue.
2. The Examiner rejected claims 5-6, 10, 14, 18, 22, and 23 under 35 U.S.C. § 103 (a) as being unpatentable over Nozue and Childs.

ISSUE

The issue before us is whether the prior art teaches (1) controlling access to selected information using attributes defined in a first table, and (2) controlling access to the selected information using a second table that associates at least one of a read and write privilege with one or more physical addresses of a memory that houses the selected information.

FINDINGS OF FACT

1. We found (1) "FIG. 21 is a block diagram of one exemplary configuration of a memory management unit using the memory protection device of FIG. 3"; (2) "FIG. 23 is a block diagram of another embodiment of a memory management unit according to the present invention"; and

(3) "FIG. 24 is a detailed block diagram of a translation look-aside buffer (TLB) check device in the memory management unit of FIG. 23" (emphasis omitted) (Nozue, col. 11, ll. 9-20).

2. We also found (1) "FIG. 41 is a block diagram of another embodiment of a memory management unit and protection system according to the present invention," and (2) "FIG. 45 is an illustration of an exemplary configuration of a program management table to be used by a program allocation unit in the memory management and protection system of FIG. 41 for a case of multiple virtual space scheme" (emphasis omitted) (Nozue, col. 12, ll. 9-31).

PRINCIPLES OF LAW

In rejecting claims under 35 U.S.C. § 102, "[a] single prior art reference that discloses, either expressly or inherently, each limitation of a claim invalidates that claim by anticipation." *Perricone v. Medicis Pharmaceutical Corp.*, 432 F.3d 1368, 1375 (Fed. Cir. 2005) (citing *Minn. Mining & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.*, 976 F.2d 1559, 1565 (Fed. Cir. 1992)).

Analysis of whether a claim is patentable over the prior art under 35 U.S.C. § 102 begins with a determination of the scope of the claim. We determine the scope of the claims in patent applications not solely on the basis of the claim language, but upon giving claims their broadest reasonable construction in light of the specification as it would be interpreted by one of ordinary skill in the art. *In re Am. Acad. of Sci. Tech. Ctr.*, 367 F.3d 1359, 1364 (Fed. Cir. 2004). The properly interpreted claim must then be compared with the prior art.

Anticipation is not established, if in reading a claim on something disclosed in a reference, it is necessary to pick, choose and combine various portions of the disclosure, which are not directly related to each other, according to the teachings of the reference. *See In re Arkley*, 455 F.2d 586, 587-88 (CCPA 1972).

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. *See In re Fine*, 837 F.2d 1071, 1073 (Fed. Cir. 1988). In so doing, the Examiner must make the factual determinations set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

If the Examiner's burden is met, the burden then shifts to the Appellants to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. *See In re Oetiker*, 977 F.2d 1443, 1445 (Fed. Cir. 1992).

ANALYSIS

The Rejection Over Nozue

Controlling Access to Selected Information Using Two Tables

Appellants contend that "the Examiner noted that the 'contents of the first and second tables [*i.e.*, the tables described in Figure 45 and 24A of Nozue] correspond to the 'selected information'" (emphasis omitted) (*See* App. Br. 11). Appellants argue "[t]o show anticipation under the Examiner's application of Nozue (where the 'selected information' corresponds to the 'contents' of these tables), the Examiner must show that both tables 'control access' to each other's contents" (emphasis omitted) (App. Br. 12).

Further, Appellants argue "[a]s can be seen, the two tables in Nozue serve two independent, different purposes - Figure 45 table tracks logical address space for programs mapped to a common logical address space, whereas Figure 24A is a translation look-aside table that defines access permissions for various threads," and "[a]s such, neither table 'controls access' to the 'contents' of the other table" (emphasis omitted) (App. Br. 12). Appellants also contend "[i]n contrast, . . . claim 1 calls for controlling access to the same selected information using two tables" (App. Br. 12).

The Examiner found that "the 'selected information' refers to regions under protection" (Ans. 16; *See also* Ans. 3). Further, the Examiner found that "in Nozue's invention, page and region are used interchangeably . . . and a reference to a physical page number applies to all the physical memory addresses within the physical page (Ans. 4).

With regard to controlling access to the selected information, the Examiner found (1) "figure 45 of Nozue shows a plurality of regions (regions 0, 1, 2, ...) each with their starting and end address and its protection key, thus the 'selected information' corresponds to the 'information stored in these regions . . . using attributes defined in a first table [i.e., the table shown in figure 45]" (emphasis omitted) (*See* Ans. 3); (2) "the protection of each physical page is accomplished by controlling the access to each page using the privilege of 'rwx' (read, write and execution)"; and (3) "[t]his is clearly shown in figure 24A, where each physical page number (312) has an associated entry of 'rwx' (315)" (Ans. 14).

The Examiner is apparently of the opinion that the claimed feature of (1) controlling access to selected information using a first table is taught by Figure 45 of Nozue, and (2) controlling access to selected information using

a second table is taught by Figure 24A of Nozue. We find that Figures 24 A and 45 depict different embodiments of the Nozue reference (*See* FF 1-2).

As discussed above, anticipation is not established if, in reading a claim limitation on something disclosed in a reference, it is necessary to pick, choose and combine various portions of the disclosure, which according to the teachings of the reference, are not directly related to each other. *See In re Arkely*, 455 F.2d at 587-588.

Accordingly, Appellants have persuaded us of error in the Examiner's conclusion of anticipation for representative claim 1. Therefore, the rejection of claim 1 and claims 2-4 which depend therefrom is reversed.

OTHER REJECTIONS

The Examiner also rejected claims 7-9, 11-13, 15-17, 19-21 and 24 under 35 U.S.C. § 102 (b) as anticipated by Nozue. Independent claims 7, 11, 15, 19, and 24 are commensurate in scope with claim 1 with regard to having (1) two steps (as in claim 7); (2) two levels (as in claims 11 and 15); and (3) two tables (as in claims 19 and 24) that are utilized to protect selected information. Thus, for similar reasons found above with regard to representative claim 1, the rejection of (1) claim 7 and claims 8-9 which depend therefrom; (2) claim 11 and claims 12-13 which depend therefrom; (3) claim 15 and claims 16-17 which depend therefrom; (4) claim 19 and claims 20-21 which depend therefrom; and (5) claim 24 is also reversed.

The Examiner also rejected dependent claims 5-6, 10, 14, 18, 22, and 23 under 35 U.S.C. § 103 (a) over Nozue and Childs. As found above, we are persuaded by Appellants' argument that Nozue fails to teach the feature of having two steps, levels, or tables for protecting selected information, as

recited in the independent claims. Thus, the absence of the foregoing limitations from Nozue in the independent claims on appeal, *i.e.*, claims 1, 7, 11, 15, and 19 overcomes the Examiner's final conclusion of obviousness. Further, we find that the Examiner did not rely on Childs to remedy the deficiencies of Nozue. Therefore, we also reverse the obviousness rejection of claims 5-6, 10, 14, 18, 22, and 23.

CONCLUSIONS OF LAW

We conclude that the Appellants have shown that the Examiner erred in rejecting claims 1-4, 7-9, 11-13, 15-17, 19-21, and 24 under 35 U.S.C. § 102 (b) and claims 5-6, 10, 14, 18, 22, and 23 under 35 U.S.C. § 103 (a).

DECISION

We reverse the Examiner's rejections with respect to all claims on appeal.

REVERSED

msc

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